

**Q.1 Multiple choice questions.**

**[ ]/10]**

**i. 5% increase in the \$100 means**

- A. \$5
- B. \$95
- C. \$100
- D. \$105

**ii. 20% of 2000 is**

- A. 100
- B. 400
- C. 2400
- D. 1600

**iii. 4 hours : 100 minutes expressed in the simplest form is**

- A. 5 : 12
- B. 2 : 50
- C. 12 : 5
- D. 4 : 100

**iv. In inverse proportion, when one quantity increases the other quantity**

- A. Increases
- B. Decreases
- C. Remains same
- D. None of the above

**v. 20 litres decreased by 45% is**

- A. 11 litres
- B. 9 litres
- C. 14 litres
- D. 29 litres

vi. 23:12 converted to 12-hour clock notation is

- A. 23:12 pm
- B. 11:12 am
- C. 11:23 am
- D. 11:12 pm

vii. The sum of two supplementary angles is

- A.  $180^\circ$
- B.  $270^\circ$
- C.  $90^\circ$
- D.  $360^\circ$

viii. The gradient of the line  $y = 5x + 4$  is

- A.  $5x$
- B. 5
- C.  $4y$
- D. 4

ix. The sum of exterior angle of an  $n$  sided polygon is equal to

- A.  $180^\circ$
- B.  $270^\circ$
- C.  $300^\circ$
- D.  $360^\circ$

x. Rectangle has \_\_\_\_\_ lines of symmetry

- A. 0
- B. 1
- C. 2
- D. 4

**Q.2****[10]****a. Fill in the blanks.****[ /5]**

- i. The most frequent number of a set of data is called its \_\_\_\_\_.
- ii. If the base angles of an isosceles triangle are  $25^\circ$  then the third angle \_\_\_\_\_.
- iii. Vertically opposite angles are always \_\_\_\_\_.
- iv. The sum of interior angles of a pentagon is \_\_\_\_\_.
- v. 5430 Litres equal to \_\_\_\_\_  $\text{cm}^3$ .

**b. True or False****[ /5]**

- i. Each angle of an equilateral triangle is equal to  $45^\circ$ . \_\_\_\_\_
- ii. The gradient of a straight line measures the ratio of vertical change to the horizontal change. \_\_\_\_\_
- iii. Parallel lines are formed when two straight lines intersect each other. \_\_\_\_\_
- iv. Midnight converted to 24 hour notation is 12 00. \_\_\_\_\_
- v. Angle bisector means dividing the angle into **three** equal parts. \_\_\_\_\_

**Q.3****[10]****a. There are 28 bed sheets and 24 pillow covers in the cupboard. Find**

- i. the ratio of bed sheets to pillow covers in the simplest form. **[ /1]**

- ii. the ratio of pillow covers to the total items in the cupboard. **[ /2]**

b. If 5 workers can paint a building in 20 days.

How many days will 4 workers take to paint the same building?

[ /2]

c. Find the cost of 8 books when 6 books cost \$48.

[ /2]

d. My car travels 128 km on 12 litres of petrol.

How far do I expect to travel on a full tank of 30 litres?

[ /3]

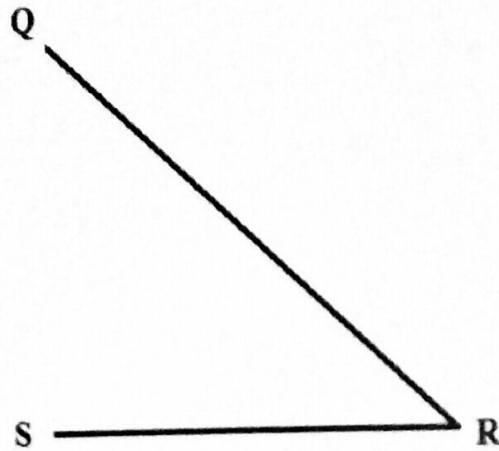
[10]

Q.4

a. Construct:

[ /3]

i. Angle bisector of  $\hat{QRS}$

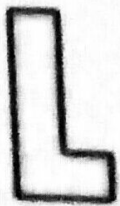


ii. Perpendicular bisector of the line LM measuring 7 cm.

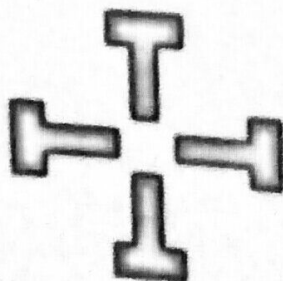
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b. State the order of rotational symmetry of the following shapes.

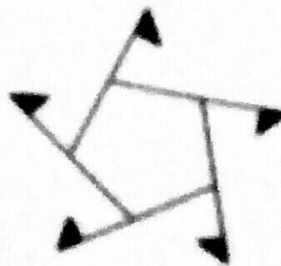
[ /4]



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

Q.5

[10]

a. Write an expression to represent

"five less than the product of eight and a number"?

[ ]/2

b. Given that the value of  $p = -4, q = 3$

Find the value of 'S' in the equation  $S = -4p + 2q$

[ ]/2

c. When a number is doubled and 5 is subtracted from the result, the answer is 37.

Find the number.

[ ]/3

d. The sum of three consecutive numbers is 156. Find the three numbers.

[ ]/3

Section B

Marks: 50

Q.6.

[10]

a.i A lorry arrived in town B at 17 45 after travelling for 8 hours and 50 minutes.

Find the time the lorry started the journey.

[2]

ii. If the lorry reached 35 minutes early, at what time was it scheduled to arrive?

[2]

b. The weight of a baby was 14kgs.

After some time the weight of the baby was increased by 30%.

Find the new weight.

[3]

c. After 6% deduction in bill, \$282 still remains to be paid.

Find the original bill.

[3]

Q.7

[10]

a. The goals of Team A during a football tournament are given below.

6, 3, 4, 4, 5, 2, 1, 0, 6, 8, 4, 5

Calculate

- i. The mean number of goals [ /2]
  
- ii. The median of the goals [ /1]
  
- iii. The mode of the goals [ /1]

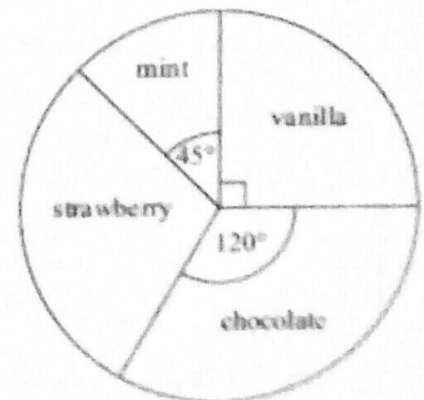
b. Some children were asked to name their favourite flavour of ice cream.

The pie chart shows some information about their answers.

15 students chose *mint* to be their favourite flavour.

Calculate

- i. The angle of sector representing strawberry. [ /2]



- ii. The total number of students who participated in the survey. [ /2]

- iii. What percentage of students selected Chocolate? [ /2]



Q.8

[10]

a. Calculate the exterior angle of a hexagon.

[2]

b. In the diagram AB is parallel to CD.

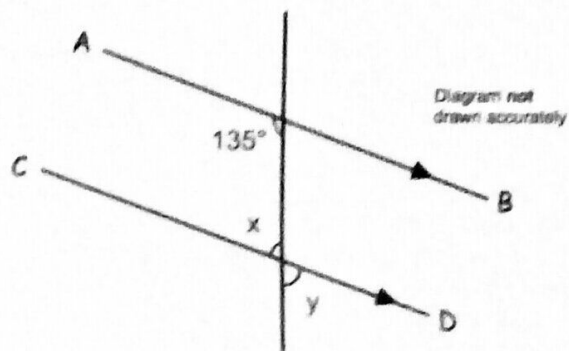
[4]

i. Calculate the size of the angle marked x.

\_\_\_\_\_

Give a reason for your answer

\_\_\_\_\_



ii. Write down the value of y. \_\_\_\_\_

Give a reason for your answer: \_\_\_\_\_

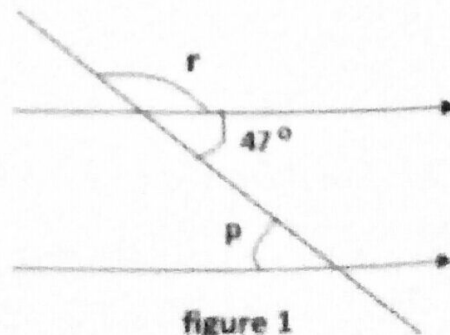
c. Find the value of the unknown variables in figure 1. Also give a reason for your answer.

[4]

i. p?

$p^\circ =$  \_\_\_\_\_

Reason: \_\_\_\_\_



ii. r?

$r^\circ =$  \_\_\_\_\_

Reason: \_\_\_\_\_

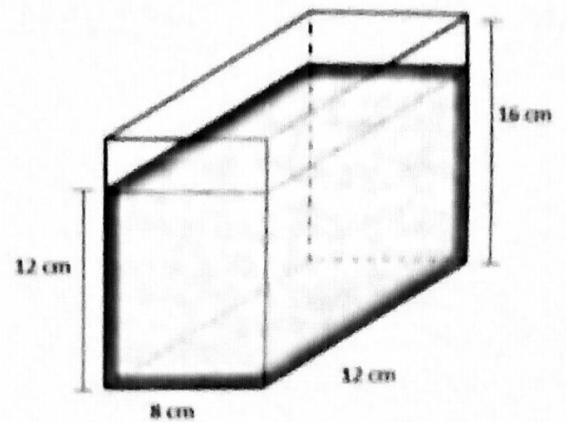
Q.9

[10]

- a. An open rectangular tank of length 12 cm, width 8 cm and height 16 cm contains water up to a height of 12 cm. Calculate:

The volume of water in litres;

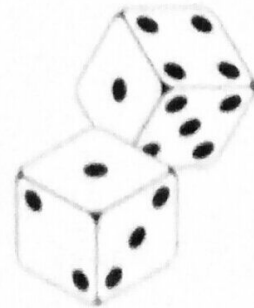
[ /4]



- b. Given that the surface area of a cube is  $96 \text{ cm}^2$ . Find

i. The length of each side of the cube

[ /3]



ii. If the length of the side of a similar cube is 10 cm, calculate its volume.

[ /3]

Q.10

- a. Draw the graph of the following linear function  
 $y = -2x + 6$

[ /5]

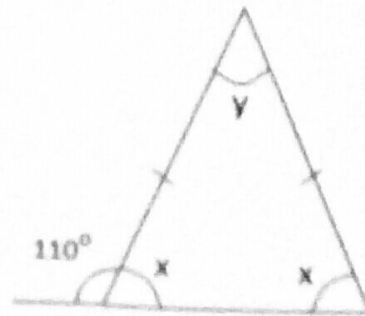


$x$			
$y = -2x + 6$			

- b. Find the value of  $x$  and  $y$  in the given isosceles triangle.

$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_



[ /1]

[ /2]

- c. Calculate the sum of interior angles of a 7 sided polygon.

[ /2]